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Customer Snapshot: Media & Entertainment & Internet Services

Paramount Pictures

Sun High-performance Computing Solution Helps Movie Studio Cut Costs and Speed Animated Movie Release

Paramount Pictures, owned by media and entertainment conglomerate Viacom Inc., has a library of more than 2,500 films, including blockbusters such as The Godfather, Mission Impossible and Star Trek series, Titanic and Forrest Gump. The Hollywood, California-based studio, in conjunction with Nickelodeon Movies and Omation Animation Studios, used a 64-bit Sun compute farm to complete the complex animation required for Barnyard, in theaters August 4th, 2006.

Business Issues

- Eliminate further delays in production of animated film
- Minimize production costs
- Successfully migrate from a 32-bit to a 64-bit server farm for superior performance

Solution

Sun provided a 620-node server farm and storage solution based on 64-bit computing technology. The solution includes Sun Fire x64 servers, as well as disk arrays and a tape library to store and backup the movie's digital assets and shot files. Sun Customer Ready Systems program configured, assembled and tested the render farm for Paramount, and Sun provides on-site support and consultation, as needed, to Barnyard's production staff.

Business Results

- Installed high-performance compute farm during production that exceeded expectations
- Reduced time to render scenes by 75%
- Saved time and gained operational efficiencies through remote management capabilities
- Reduced production costs by speeding movie's completion
- Enabled movie launch two months ahead of planned release

Products / Solutions

- Sun Fire V20z
- Sun Fire V40z
- Sun StorageTek 3510 FC Array
- Sun StorageTek 3511 SATA Array
- Sun StorageTek L100 Tape Library
- QLogic SAN switch
- Sun Customer Ready Systems program
- Sun onsite technical support and consultation

Success at a Glance

Paramount's most technically challenging animated film to date, Barnyard, contains vast landscapes with vivid details and realistic lighting and shading, as well as scenes that incorporate more than 200 characters, including farm animals that move with surprising fluidity. Rendering such complex scenes is a compute-intensive process requiring a robust, high-performance server farm.

Midway through production, the new executive producer and technology manager realized that the existing 32-bit Dell compute farm and EMC storage solution didn't provide adequate horsepower. Animated scenes had to be parsed into many small pieces due to the insufficient memory capacity of the server farm, multiplying the workload of the lighting team and extending the time required to render scenes to as long as four weeks. Poor support from Dell further complicated production issues.

" Sun provided us with not only superior technology, but also a safety net. The Sun team helped us develop our tools and make the whole pipeline work. We have far more than a business relationship with Sun; it is a true partnership. There is not another vendor that we can turn to and get this kind of support. "

— David Krause, Manager of Technology, Barnyard

To prevent further delays to the film's release date and avoid production cost increases, the movie's producers made a bold move: They decided to pitch the existing render farm and move to a higher performance computing solution in the middle of production.

Barnyard's technical crew needed to push the technological envelope to complete the movie. They switched from the Microsoft Windows operating system to Linux, which consumes less memory, and sought a 64-bit computing platform. Producers and technical crew looked at competitive solutions from HP and IBM, but Sun was the clear frontrunner. Sun's willingness to partner with the Barnyard team by providing ongoing technical consultation and Sun's successful track record using AMD Opteron technology were decisive factors. Some of Barnyard's staff also had past positive experiences using Sun technology and Sun's customer references verified that the proposed solution could efficiently handle complex rendering.

The Sun Customer Ready Systems (CRS) program delivered to the film's data center a pre-assembled, racked and tested 620-node compute grid consisting of dual-processor Sun Fire V20z and V40z x64 servers. The key applications that run on the servers include Avid Softimage XSI Essentials animation software, Mental Ray rendering software and Digital Fusion compositing software. Paramount also purchased 100-terabyte (TB) Sun storage arrays and a Sun tape library for online storage and backup of shot files and other movie assets.

Barnyard's producers believe their Sun solution may represent the first time a studio has relied entirely upon 64-bit technology to render a full-length animated movie. The goal of Paramount and partner studio, Nickelodeon Movies, is to create high-quality animated films at a fraction of the typical cost. By taking full advantage of Sun's technology, animators reduced the time to render scenes by an average of 75 percent, from four weeks to one week. Barnyard's IT staff can efficiently manage the compute farm, located 35 miles from the studio, thanks to the remote access capability of the Sun solution. Sun has also maintained a close partnership with Barnyard's production team, providing consultation and onsite service to immediately resolve technical issues. These advantages allowed the release date to be advanced from October to August 2006, to reach larger summer movie audiences.

Thrilled with its high-performance solution and close partnership with Sun, Paramount is looking at Sun's latest technologies to provide similar compute and storage resources for future movies.

Read more about the difference Sun technical support, consultation services and CRS made for Paramount